the amount of platinum, expressed in parts by weight of elemental platinum, lies within the range going from 1 to 250 ppm with respect to the total weight of the polyorganosiloxane constituent(s) of the curable compositions D; and

the amounts of constituents A3, B2, B3 and C2 of mixtures A, B and C, expressed in parts by weight of the constituent, lie within the range going from 0.5 to 30 parts by weight per 100 parts of the polyorganosiloxane constituent(s) of the curable compositions D.

21. (New) A method of enhancing the arc-tracking and arc-erosion resistance properties of an article, comprising incorporating an effective amount of the composition of claim 20 into said article.

REMARKS

Entry of the foregoing, reexamination and reconsideration of the subject application are respectfully requested in light of the amendments above and the comments which follow.

As correctly noted in the Office Action Summary, claims 1-13 were pending. By the present response, claims 1, 2 and 6 have been amended and claims 14-21 have been added. Thus, upon entry of the present response, claims 1-21 are pending and await further consideration on the merits.

Support for the above-identified claim amendments can be found at least at the following locations of the original disclosure: claims 1-10 as originally filed; page 8, line 24 through page 9, line 1; and page 11, line 8 through page 12, line 24.

CLAIM REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claims 2 and 6 stand rejected under 35 U.S.C. §112, second paragraph on the grounds set forth in paragraph 1 of the Official Action.

By the present response, applicants have amended claims 2 and 6 in a manner which is believed to address the above-noted rejections. Thus, reconsideration and withdrawal of these rejections is respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

Claims 1-3 and 8-12 stand rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Patent Publication 50-97644 (hereafter "*JP '644*") on the grounds set forth in paragraph 5 of the Official Action. This rejection is respectfully traversed.

The present invention is directed to an improved composition, and method of its use, for providing good arc-tracking and arc-erosion resistance properties.

According to one aspect, the present invention is directed to a composition as set forth in amended claim 1. Claim 1 recites:

> *1. A composition for enhancing the arc-tracking and arc-erosion resistance properties of an article comprising:*
> *an effective amount of a mixture A, B or C formed from:*
> *in regard to mixture A, constituents A1 + A3 where constituent A1 is platinum in the form of a platinum complex or compound and constituent A3 consists of a combination of FeO and Fe_2O_3;*
> *in regard to mixture B, mixture B consisting of at least one of:*
> *constituents B1 + B2 where constituent B1 has the meaning of constituent A1 and constituent B2 comprises cerium (IV) oxide and/or hydroxide; and*
> *constituents B1 + B3 where constituent B1 has the meaning of constituent A1 and constituent B3 has the meaning of a combination of cerium (IV) oxide and/or hydroxide and titanium oxide TiO_2; or*

in regard to mixture C, constituents C1 + C2 where constituent C1 has the meaning of constituent A1 and constituent C2 consists of a combination of constituent B3 and constituent A3;
in constituent A3, the ratio of the amount by weight of FeO to that of Fe_2O_3 lies within the range going from 0.1:1 to 9:1;
in constituent B3, the ratio of the amount by weight of cerium (IV) oxide and/or hydroxide to that of TiO_2 lies within the range going from 0.6:1 to 6:1;
in constituent C2, the ratio of the amount by weight of constituent A3 to that of constituent B3 lies within the range going from 0.02:1 to 1:1;
in a polyorganosiloxane composition D comprising an alkenylsilyl group-carrying constituent and a hydrosilyl group-carrying constituent, either crosslinkable at room temperature or with the heat from polyaddition reactions in the presence of a platinum catalyst by reactions between the alkenylsilyl and hydrosilyl groups; and
the amounts of the various constituents A1, A3, B1, B2, B3, C1 and C2 lie within the ranges mentioned below;
the amount of platinum, expressed in parts by weight of elemental platinum, lies within the range going from 1 to 250 ppm with respect to the total weight of the polyorganosiloxane constituent(s) of the curable compositions D; and
the amounts of constituents A3, B2, B3 and C2 of mixtures A, B and C, expressed in parts by weight of the constituent, lie within the range going from 0.5 to 30 parts by weight per 100 parts of the polyorganosiloxane constituent(s) of the curable compositions D.

According to a further aspect, the present invention is directed to an improved composition. This composition is set forth as defined in claim 16. Claim 16 recites:

16. A composition for enhancing the arc-tracking and arc-erosion resistance properties of an article comprising:
an effective amount of a mixture A, B or C formed from:
in regard to mixture A, constituents A1 + A3 where constituent A1 is platinum in the form of a platinum complex or compound and constituent A3 consists of a combination of FeO and Fe_2O_3;
in regard to mixture B, mixture B consisting of at least one of:
constituents B1 + B2 where constituent B1 has the meaning of constituent A1 and constituent B2 comprises cerium (IV) oxide and/or hydroxide; and
constituents B1 + B3 where constituent B1 has the meaning of constituent A1 and constituent B3 has the meaning of a

combination of cerium (IV) oxide and/or hydroxide and titanium oxide TiO_2; or
in regard to mixture C, constituents C1 + C2 where constituent C1 has the meaning of constituent A1 and constituent C2 consists of a combination of constituent B3 and constituent A3;
in constituent A3, the ratio of the amount by weight of FeO to that of Fe_2O_3 lies within the range going from 0.1:1 to 9:1;
in constituent B3, the ratio of the amount by weight of cerium (IV) oxide and/or hydroxide to that of TiO_2 lies within the range going from 0.6:1 to 6:1;
in constituent C2, the ratio of the amount by weight of constituent A3 to that of constituent B3 lies within the range going from 0.02:1 to 1:1;
in a polyorganosiloxane composition D comprising a one-component or two component composition crosslinkable at room temperature or with heat from polyaddition reactions, the composition (D) comprises:

(a) 100 parts by weight of at least one polydiorganosiloxane comprising linear homopolymers or copolymers having at least 2 vinyl groups per molecule, these vinyl groups being linked to different silicon atoms and located in the chain and/or at the chain ends, the other organic radicals of which, linked to the silicon atoms, are chosen from methyl, ethyl and phenyl radicals, at least 60 mol% of these other radicals being methyl radicals, and having a viscosity ranging from 400 to 100,000 mPa.s at 25 °C;
(b) at least one polyorgano-hydrosiloxane chosen from linear or cyclic homopolymers and copolymers having at least 2 hydrogen atoms per molecule, these hydrogen atoms being linked to different silicon atoms and the organic radicals of which, linked to the silicon atoms, are chosen from methyl, ethyl and phenyl radicals, at least 60 mol% of these radicals being methyl radicals, and having a viscosity ranging from 5 to 1000 mPa.s at 25 °C, reactant (b) being used in an amount such that the molar ratio of the hydride functional groups of (b) to the vinyl groups of (a) is between 1.1 and 4;
(c) a catalytically effective amount of a platinum catalyst;

(d) 0 to 120 part(s) by weight of siliceous filler(s) per 100 parts by weight of the combination of polyorganosiloxanes (a) + (b); and
the amounts of the various constituents A1, A3, B1, B2, B3, C1 and C2 lie within the ranges mentioned below;
the amount of platinum, expressed in parts by weight of elemental platinum, lies within the range going from 1 to 250 ppm with respect to the total weight of the polyorganosiloxane constituent(s) of the curable compositions D; and
the amounts of constituents A3, B2, B3 and C2 of mixtures A, B and C, expressed in parts by weight of the constituent, lie within the range going from 0.5 to 30 parts by weight per 100 parts of the polyorganosiloxane constituent(s) of the curable compositions D.

According to another aspect, the present invention is directed to a composition as defined by claim 18:

18. A composition for enhancing the arc-tracking and arc-erosion resistance properties of an article comprising:
an effective amount of a mixture A, B or C formed from:
in regard to mixture A, constituents A1 + A3 where constituent A1 is platinum in the form of a platinum complex or compound and constituent A3 consists of a combination of FeO and Fe_2O_3;
in regard to mixture B, mixture B consisting of at least one of:
constituents B1 + B2 where constituent B1 has the meaning of constituent A1 and constituent B2 comprises cerium (IV) oxide and/or hydroxide; and
constituents B1 + B3 where constituent B1 has the meaning of constituent A1 and constituent B3 has the meaning of a combination of cerium (IV) oxide and/or hydroxide and titanium oxide TiO_2; or
in regard to mixture C, constituents C1 + C2 where constituent C1 has the meaning of constituent A1 and constituent C2 consists of a combination of constituent B3 and constituent A3;
in constituent A3, the ratio of the amount by weight of FeO to that of Fe_2O_3 lies within the range going from 0.1:1 to 9:1;

in constituent B3, the ratio of the amount by weight of cerium (IV) oxide and/or hydroxide to that of TiO_2 lies within the range going from 0.6:1 to 6:1;
in constituent C2, the ratio of the amount by weight of constituent A3 to that of constituent B3 lies within the range going from 0.02:1 to 1:1;
in a polyorganosiloxane composition D comprising a one-component or two component composition crosslinkable with heat from polyaddition reactions, the composition (D) comprises:

(a) 100 parts by weight of at least one polydiorganosiloxane comprising linear homopolymers or copolymers having at least 2 vinyl groups per molecule, these vinyl groups being linked to different silicon atoms and located in the chain and/or at the chain ends, the other organic radicals of which, linked to the silicon atoms, are chosen from methyl, ethyl and phenyl radicals, at least 60 mol% of these other radicals being methyl radicals, and having a viscosity ranging from 100,000 to 500,000 mPa.s at 25 °C;
(b) at least one polyorgano-hydrosiloxane chosen from linear or cyclic homopolymers and copolymers having at least 2 hydrogen atoms per molecule, these hydrogen atoms being linked to different silicon atoms and the organic radicals of which, linked to the silicon atoms, are chosen from methyl, ethyl and phenyl radicals, at least 60 mol% of these radicals being methyl radicals, and having a viscosity ranging from 5 to 1000 mPa.s at 25 °C, reactant (b) being used in an amount such that the molar ratio of the hydride functional groups of (b) to the vinyl groups of (a) is between 1.1 and 4;
(c) a catalytically effective amount of a platinum catalyst;
(d) 0 to 120 part(s) by weight of siliceous filler(s) per 100 parts by weight of the combination of polyorganosiloxanes (a) + (b); and
the amounts of the various constituents A1, A3, B1, B2, B3, C1 and C2 lie within the ranges mentioned below;

the amount of platinum, expressed in parts by weight of elemental platinum, lies within the range going from 1 to 250 ppm with respect to the total weight of the polyorganosiloxane constituent(s) of the curable compositions D; and

the amounts of constituents A3, B2, B3 and C2 of mixtures A, B and C, expressed in parts by weight of the constituent, lie within the range going from 0.5 to 30 parts by weight per 100 parts of the polyorganosiloxane constituent(s) of the curable compositions D.

According to yet another aspect, the present invention is directed to an improved composition as set forth in claim 20:

20. A composition for enhancing the arc-tracking and arc-erosion resistance properties of an article comprising:
an effective amount of a mixture A, B or C formed from:
in regard to mixture A, constituents A1 + A3 where constituent A1 is platinum in the form of a platinum complex or compound and constituent A3 consists of a combination of FeO and Fe_2O_3;
in regard to mixture B, mixture B consisting of at least one of:
constituents B1 + B2 where constituent B1 has the meaning of constituent A1 and constituent B2 comprises cerium (IV) oxide and/or hydroxide; and
constituents B1 + B3 where constituent B1 has the meaning of constituent A1 and constituent B3 has the meaning of a combination of cerium (IV) oxide and/or hydroxide and titanium oxide TiO_2; or
in regard to mixture C, constituents C1 + C2 where constituent C1 has the meaning of constituent A1 and constituent C2 consists of a combination of constituent B3 and constituent A3;
in constituent A3, the ratio of the amount by weight of FeO to that of Fe_2O_3 lies within the range going from 0.1:1 to 9:1;
in constituent B3, the ratio of the amount by weight of cerium (IV) oxide and/or hydroxide to that of TiO_2 lies within the range going from 0.6:1 to 6:1;
in constituent C2, the ratio of the amount by weight of constituent A3 to that of constituent B3 lies within the range going from 0.02:1 to 1:1;
in a polyorganosiloxane composition D comprising a one-component or two component composition crosslinkable with heat from polyaddition reactions, the composition (D) comprises:
(a') 100 parts by weight of polydiorganosiloxane gum which is a linear homopolymer or copolymer having at least 2 vinyl groups per molecule, these vinyl groups being linked to different silicon atoms and located in the chain and/or at the chain ends, the other organic radicals of which, linked to the silicon atoms, are chosen from methyl, ethyl and phenyl radicals, at least

60 mol% of these other radicals being methyl radicals, and the said gum having a viscosity of greater than 500,000 mPa.s at 25 °C;
(b') at least one polyorgano-hydrosiloxane chosen from linear, cyclic or network homopolymers and copolymers having at least 3 hydrogen atoms per molecule, these hydrogen atoms being linked to different silicon atoms, and the organic radicals of which, linked to the silicon atoms, are chosen from methyl, ethyl and phenyl radicals, at least 60 mol% of these radicals being methyl radicals, and having a viscosity ranging from 5 to 1000 mPa.s at 25 °C, reactant (b') being used in an amount such that the molar ratio of the hydride functional groups of (b') to the vinyl groups of (a') is between 0.4 and 10;
(c') a catalytically effective amount of a platinum catalyst;
(d') 0.5 to 120 parts by weight of siliceous filler(s) per 100 parts by weight of the combination of polyorganosiloxanes (a') + (b'); and
the amounts of the various constituents A1, A3, B1, B2, B3, C1 and C2 lie within the ranges mentioned below;
the amount of platinum, expressed in parts by weight of elemental platinum, lies within the range going from 1 to 250 ppm with respect to the total weight of the polyorganosiloxane constituent(s) of the curable compositions D; and
the amounts of constituents A3, B2, B3 and C2 of mixtures A, B and C, expressed in parts by weight of the constituent, lie within the range going from 0.5 to 30 parts by weight per 100 parts of the polyorganosiloxane constituent(s) of the curable compositions D.

The present invention is also directed to a method of enhancing the arc-tracking and arc-erosion resistance properties of an article comprising incorporating an effective amount of the compositions of claims 1, 16, 18 and 20, as set forth in claims 11, 17, 19 and 21, respectively.

JP '644 is directed to a self-extinguishing silicone rubber composition. The rubber composition described therein may apparently include a platinum compound, and an iron

oxide additive. However, *JP '644* fails to anticipate the composition as defined above, or the claimed method of its use.

For instance, amended claim 1 requires a polyorganosiloxane composition comprising an alkenylsilyl group-carrying constituent as well as a hydrosilyl group-carrying constituent which is crosslinkable at room temperature or with the heat from polyaddition reactions in the presence of a platinum catalyst by reactions between the alkenylsilyl and hydrosilyl groups. By contrast, *JP '644* discloses a diorganopolysiloxane rubber containing phenol-containing siloxane units and vinyl-containing siloxane units (see, e.g. - page 3, lines 8-9). Moreover, as acknowledged in paragraph 5 of the Official Action, the composition described in *JP '644* does not crosslink by polyaddition reaction in the presence of a platinum catalyst. Therefore, *JP '644* clearly fails to anticipate amended claim 1. Thus, reconsideration and withdrawal of the rejection is respectfully requested.

Claims 1-3, 8, 9, 11 and 12 stand rejected under 35 U.S.C. §102(e) as being anticipated by *Takita et al.* on the grounds set forth in paragraph 7 of the Official Action. This rejection is respectfully traversed.

First, paragraph 7 of the Official Action fails to set forth any grounds or basis whatsoever for the rejection. Thus, applicants are unable to fully and fairly respond absent clarification regarding the grounds of rejection being applied.

Second, *Takita et al.* fails to anticipate the presently claimed invention as set forth above. For instance, amended claim 1 recites a composition including a polyorganosiloxane composition D comprising an alkenylsilyl group-carrying constituent and an hydrosilyl group-carrying constituent crosslinkable at room temperature or with the

heat from polyaddition reactions in the presence of a platinum catalyst by reactions between the alkenylsilyl and hydrosilyl groups. By contrast, *Takita et al.* teaches the use of polyorganosiloxane materials having a composition which is crosslinkable with organic peroxides at elevated temperatures (see, e.g. - column 4, line 60; column 6, lines 28-33). Further, *Takita et al.* discloses that when organopolysiloxanes of component (1) possesses at least two alkenyl groups, an organohydrogen polysiloxane having at least two hydrogen atoms bound to silicon atoms may be used as a cross-linking agent (column 5, lines 3-7). However, *Takita et al.* fails to disclose the polyorganosiloxane composition D as defined by amended claim 1. Thus, *Takita et al.* fails to anticipate the present invention as defined by amended claim 1. Reconsideration and withdrawal of the rejection is respectfully requested.

10?

CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 4-7 and 13 stand rejected under 35 U.S.C. §103(a) as being obvious over *JP'644* in view of *Matsushita* on the grounds set forth in paragraph 6 of the Official Action. This rejection is respectfully traversed.

Even if the teachings of the two references were properly combinable, the claimed invention would not have been suggested.

As noted above, *JP '644* discloses a self-extinguishing silicone rubber composition which includes various constituent components including a mixed iron oxide additive expressed by the general formula $(FeO)_x(Fe_2O_3)_y$.

Matsushita is also directed to self-extinguishing silicone rubber compositions but explicitly teaches away from the composition disclosed in *JP '644* and recited by the claimed invention:

> . . . and Japanese Laid-Open Publication No. 50-97644 discloses $(FeO)_x(Fe_2O_3)_y$ (where the ratio between small x and small y is in the range 0.05 to 1.0) . . . The product obtained by adding a platinum compound and $(FeO)_x(Fe_2O_3)_y$ is disadvantageous in that if the amount of $(FeO)_x(Fe_2O_3)_y$ is not large, the resulting self-extinguishing properties will be unsatisfactory, whereas if the amount of $(FeO)_x(Fe_2O_3)_y$ is increased, the mechanical properties of the resulting property silicone elastomer will be deteriorated. (column 1, lines 27-30 and 46-52)

Matsushita expressly teaches substitution of a particular iron oxide for the above-mentioned mixed iron oxide. More specifically, *Matsushita* clearly and explicitly teaches that the composition described therein must include γ-type iron oxide instead of the $(FeO)_x(Fe_2O_3)_y$ (column 3, lines 16-40).

Thus, if the teachings of *Matsushita* were objectively applied by one of ordinary skill in the art to *JP '644* it is clear that the γ-type iron oxide additive would have been substituted for the $(FeO)_x(Fe_2O_3)_y$ additive described in *JP '644*. However, substitution of the γ-type iron oxide additive would not have resulted in the presently claimed invention as defined, for example, in amended claim 1. As already acknowledged by the Examiner, the γ-type iron oxide additive taught by *Matsushita* does not satisfy the recited iron oxide additive of claim 1.

Therefore, if the proposed combination were made, the addition of the teachings of *Matsushita* would have led one of ordinary skill in the art even further away from the presently claimed invention. Thus, the rejection is improper and should be withdrawn.

Moreover, neither *JP '644* nor *Matsushita* disclose, or suggest, the polyorganosiloxane composition D as defined in claim 1 comprising an alkenylsilyl group-carrying constituent and a hydrosilyl group-carrying constituent crosslinkable at room temperature or with the heat from polyaddition reactions in the presence of a platinum catalyst by reactions between the alkenylsilyl and hydrosilyl groups.

Claims 4-7, 10 and 13 stand rejected under 35 U.S.C. §103(a) as being obvious over *Takita et al.* on the grounds set forth in paragraph 8 of the Official Action. This rejection is respectfully traversed.

Takita et al. fails to disclose, or even suggest, the subject matter of claims 4-7, 10 and 13 for at least the same reasons noted above in connection with the discussion of claim above. Thus, reconsideration and withdrawal of this rejection is also requested on the grounds previously stated.

CONCLUSION

From the foregoing, further and favorable action in the form of a Notice of Allowance is earnestly solicited. Should the Examiner feel that any issues remain, it is

requested that the undersigned be contacted so that any such issues may be adequately addressed and prosecution of the instant application expedited.

Respectfully submitted,

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Date: July 13, 2001

Attachment to Amendment dated July 13, 2001

Marked-up Claims 1, 2 and 6

1. (Three-Times Amended) A composition for enhancing the arc-tracking and arc-erosion resistance properties of an article comprising:

an effective amount of a mixture A, B or C formed from:

in regard to mixture A, constituents A1 + A3 where constituent A1 is platinum in the form of a platinum complex or compound and constituent A3 consists of a combination of FeO and Fe_2O_3;

in regard to mixture B, mixture B consisting of at least one of: constituents B1 + B2 where constituent B1 has the meaning of constituent A1 and constituent B2 comprises cerium (IV) oxide and/or hydroxide; and

constituents B1 + B3 where constituent B1 has the meaning of constituent A1 and constituent B3 has the meaning of a combination of cerium (IV) oxide and/or hydroxide and titanium oxide TiO_2; or

in regard to mixture C, constituents C1 + C2 where constituent C1 has the meaning of constituent A1 and constituent C2 consists of a combination of constituent B3 and constituent A3;

in constituent A3, the ratio of the amount by weight of FeO to that of Fe_2O_3 lies within the range going from 0.1:1 to 9:1;

in constituent B3, the ratio of the amount by weight of cerium (IV) oxide and/or hydroxide to that of TiO_2 lies within the range going from 0.6:1 to 6:1;

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Marked-up Claims 1, 2 and 6

in constituent C2, the ratio of the amount by weight of constituent A3 to that of constituent B3 lies within the range going from 0.02:1 to 1:1;

in a polyorganosiloxane composition D comprising an alkenylsilyl group-carrying constituent and a hydrosilyl group-carrying constituent [for obtaining a silicone elastomer], either crosslinkable at room temperature or with the heat from polyaddition reactions in the presence of a platinum catalyst by reactions between the alkenylsilyl and hydrosilyl groups; and

the amounts of the various constituents A1, A3, B1, B2, B3, C1 and C2 lie within the ranges mentioned below;

the amount of platinum, expressed in parts by weight of elemental platinum, lies within the range going from 1 to 250 ppm with respect to the total weight of the polyorganosiloxane constituent(s) of the curable compositions D; and

the amounts of constituents A3, B2, B3 and C2 of mixtures A, B and C, expressed in parts by weight of the constituent, lie within the range going from 0.5 to 30 parts by weight per 100 parts of the polyorganosiloxane constituent(s) of the curable compositions D.

2. (Three-Times Amended) The method according to claim 11, wherein the curable polyorganosiloxane compositions D, presented as one or more packages, contain a main constituent formed from one or more polyorganosiloxane constituents, and a suitable

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Marked-up Claims 1, 2 and 6

catalyst [and, optionally, one or more compounds selected from the group of: reinforcing, semi-reinforcing, or bulking fillers; fillers serving to modify the rheology of the curable compositions; crosslinking agents; adhesion promoters; plasticizers; catalysts; inhibitors; and colorants].

6. (Three-Times Amended) The method according to claim 2, wherein the polyorganosiloxane compositions D [are those] comprise one-component or two-component compositions crosslinkable with heat from polyaddition reactions, and comprising at least one vinyl-containing polydiorganosiloxane reactant (a), [called LSR compositions, these compositions satisfying the definitions with regard to polyorganosiloxane compositions crosslinkable at room temperature except with regard to] the viscosity of the vinyl-containing polydiorganosiloxane reactant (a) [which this time] lies within the range going from a value greater than 100,000 mPa.s to 500,000 mPa.s.